

## NOTES ON NEW COCCIDAE.

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1. A NEW COCCID PEST OF GREEN-  
HOUSES.

Yesterday (Feb. 12), in the greenhouse of the N. M. Experiment Station, Prof. Geo. Vestal directed my attention to some small ornamental plants, which were swarming with a scale-insect. The plants had been received from the Colorado Experiment Station, and were not noticed to be infested on arrival; but they must have had some of the Coccids upon them at the time. The name of the plant is given to me by Prof. Vestal as *Pilea arborea* or *filosa* (it is not at all pilose), but I do not find these names in the Index Kewensis.

I recognised at once that the Coccid was new to this country, but I quite expected it would prove to be Newstead's *Lecanium minimum*, described from hothouse plants in England. However, to my surprise, it is quite distinct, and new, so I describe it herewith.

*Lecanium flaveolum*, n. sp. ♀ Scale (gravid) just 2 mm. long, less than 1 mm. broad, fairly convex, tolerably shiny, light yellow, with the black eyes conspicuous. It is like a very small pale *L. hesperidum*, but narrower. A little spot of white secretion at each stigmatal incision. Parasitised scales turn black. Half-grown examples are delicately reticulated with pale brown lines.

The insect is viviparous, and the newly-hatched young are very pale pink.

♀ Adult, boiled in caustic soda, turns pinkish, but the skin is colorless. Dermis not at all reticulate or tessellate. Antennae very pale, slender, 7-segmented, the segments very distinct, 3 longest, but 4 nearly as long; then 2 and 7 equal in length, obviously shorter than 4; then 1, then 5, then 6, a lit-

tle shorter than 5. 5+6 not as long as 4. Formula 34 (27) 156. 2 and 4 each with a conspicuous pair of bristles near the end, 1 also with a pair, but further apart; 5 and 6 each with a conspicuous bristle; 7 with many bristles, one at its tip about as long as itself. Legs small and pale; tarsus about or nearly  $\frac{3}{4}$  length of tibia; tarsal digitules long, slender but of more than filiform thickness, with small but very distinct oblique knobs; digitules of claw extending considerably beyond tip of claw, fairly but not very stout, with large knobs. Trochanter with a very long hair, tibia with a conspicuous bristle on inner side near end. Anal ring with only four hairs, these very long and quite stout. Anal plates rather long and narrow, their outer sides about equal, three bristles at hind tip. Stigmatal spines brown, in threes, one very long and stout, the other two minute and narrow-conical. Margin with rather numerous long slender spines, which are blunt at tips.

*Hab.* On stems of *Pilea* in greenhouse of N. M. Agricultural Experiment Station, Mesilla Park, N. M.

*L. flaveolum* differs from *maculatum*, Sign., in being narrower, and entirely lacking the dorsal row of spots which gave the latter its specific name. It differs from *minimum*, Newst., by the dermis being not tessellate, the second segment of antenna being much longer, the 7th not so long, and conspicuously shorter than 3, the tarsi conspicuously shorter than tibiae, the digitules longer than in Newstead's figure. It differs from *rubellum*, Ckll., by its dermis not being crowded with gland-spots, its claw-digitules not or hardly bulbous at base, and the longer 4th segment of antenna. It differs from *nanum*, Ckll., by the longer tarsal digitules,

the much longer 4th antennal segment, and the quite large marginal spines. None of these similar species have been found in the U. S.

## 2. A JAPANESE COCCID QUARANTINED AT SAN FRANCISCO.

*Leucaspis japonicus*. n. sp. — ♀ Scales numerous on the twigs, pyriform, about the form of *Mytilaspis pomorum*, but somewhat smaller, whitish with a strong greyish-ochreous tinge, exactly the color of the twig on which they rest; exuviae strongly contrasting, dark chestnut color. The second skin is large and narrow, only slightly overlapped by the first.

♀ Elongate, after boiling in soda pale orange-yellow; four well-developed lobes, similar in form, but the second smaller than the first, all about as far apart as the breadth of a median lobe, trilobed, the median lobule largest, the others very distinct and somewhat spreading. The wide areas between the median lobes, and between the first and

second, are each occupied by a pair of deeply bifid plates, which do not extend to the level of the ends of the lobes. The margin cephalad of the second lobe is gently crenate, the low broad elevations resulting, about seven in number, being armed with three or more minute spinules, really rudimentary plates. Surface of hind portion conspicuously striate, anal orifice a long distance from hind end, no groups of ventral glands, but numerous large transversely elongate scattered glands. The whole lateral margin of the abdominal portion of the insect presents a thickened striate edge, with broad serrate chaff-like scales at very frequent intervals.

*Hab.* — On broom from Japan, found Dec., 1896, by Mr. Alex. Craw in the course of his horticultural quarantine work at San Francisco.

*Note.* — Since the above was written, Prof. Gillette has found the *Lecanium flaveolum* at the Colorado College. The proper name of the plant, according to Mr. Cowen, is *Pilea microphyllum*. — T. D. A. C., March 2.

## THE LARVAL STAGES OF ARCTIA ANNA GROTE.

BY HARRISON G. DYAR, NEW YORK, N. Y.

Eggs were obtained from a female moth of the *persephone* form at Greenwood Lake, N. J., in June.

*Egg.* Neatly conoidal, the base flat and concave; pale yellowish white, shining; the reticulations very fine, broad, not sharp, rounded, the areas between forming shallow indistinctly margined pits; height, .6 mm., diameter .9 mm.

*Stage I.* Head bilobed, the lobes dark blackish brown, clypeus pale, whitish; width .4 mm. Cervical shield narrow, dusky; body whitish, with long, stiff, dark setae; warts pale; later both warts and leg-plates shining dusky gray, large. Setae normal, the subprimaries absent, but wart iii on the abdomen bears two hairs, including the large

subdorsal wart on joint 13 which has four hairs. At the end of the stage the appearance is whitish, the segments faintly brown dotted, not distinctly banded, the warts dusky, not contrasting.

*Stage II.* Head bilobed, the lobes shining blackish, clypeus pale; width .55 mm. Body whitish, shaded with red-brown around the dusky warts, giving the appearance of longitudinal bands, especially a pale dorsal line. Warts hairy, normal, large except i which is very small and vi which is moderate. Hairs stiff, black, a few longer ones posteriorly from the subdorsal wart on joint 13. After eating, the body becomes sordid greenish, the larva consequently appearing dark.

*Stage III.* Head shining black, the cly-